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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,900	11/03/2003	Carl Michael Hesler	A01448	4372

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	

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08/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/699,900	Applicant(s) HESLER ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 30 July 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *see attachment*. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *3,5,6,8,10 and 12*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

Callie E. Shosho
Primary Examiner
Art Unit: 1714

Attachment to Advisory Action

1. Applicants' amendment filed 7/30/07 has been fully considered, however, the amendment has not been entered given that it raises new issues that would require further consideration and search.

Specifically, the amendment raises new issues that would require further consideration and search given that claim 1 has been amended to recite "consisting essentially of" transitional language with respect to the ink. The use of "consisting essentially of" narrows the scope of the claims with respect to the ink. Such narrowing of the scope of the claims would require further consideration and search.

Further, it is noted that even *if* the amendment were entered, the present claims would not be allowable over the "closest" prior art Zhu (U.S. 5,889,083) or Patel et al. (U.S. 5,977,210) for the following reasons.

Applicants argue that Zhu is not a relevant reference against the present claims given that the ink of Zhu requires wax that is outside the scope of the present claims that now recite "consisting essentially of" transitional language with respect to the ink. Similarly, applicants argue that Patel et al. is not a relevant reference against the present claims given that the ink of Patel et al. requires cationic surfactant that is outside the scope of the present claims which now recite "consisting essentially of" transitional language with respect to the ink.

It is agreed that the ink of Zhu requires wax and the ink of Patel et al. requires cationic surfactant. However, while it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not materially affect the basic

and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. wax or cationic surfactant, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant's invention, See MPEP 2111.03.

The above is especially significant given that the present specification discloses that the ink can include additional materials including viscosity modifiers and surfactant (page 9, lines 19-20). With respect to the former, applicants argue that the wax of Zhu would materially affect the basic and novel characteristics of the claimed invention given that wax increases viscosity. However, in light of the disclosure in the present specification that the ink of the present invention includes viscosity modifiers, it appears that the use of materials that modify or increase the viscosity, i.e. wax, would not materially affect the basic and novel characteristics of the claimed invention. With respect to the later, given that present specification already discloses the use of anionic surfactant and nonionic surfactant, it is clear that the disclosure of the use of additional surfactants would encompass cationic surfactant. Thus, in light of the disclosure in the present specification that the ink of the present invention includes additional surfactant, it appears that the use of another surfactant in addition to anionic surfactant and nonionic surfactant, i.e. cationic surfactant, would not materially affect the basic and novel characteristics of the claimed invention. Further, there is no evidence that the presence of wax or cationic surfactant would in fact materially affect the basic and novel characteristic of the claimed invention. Additionally, the ink of each of Zhu and Patel et al. have the same basic and novel characteristic as the ink of the present invention, namely, that the ink is suitable for printing on

hydrophobic substrate without the need for additional processing. Specifically, Zhu discloses process for providing an image on a hydrophobic substrate comprising forming an ink jet ink wherein the ink has good scratch resistance and rub resistance (col.13, lines 16-18) while Patel et al. discloses process for providing an image on a hydrophobic substrate comprising forming an ink jet ink wherein the ink has excellent smear resistance (col.3, line 16 and col.7, line 36-55). This is the same motivation as for using the ink of the present invention (see page 1, lines 12-16 and page 11 of the present specification).

Applicants also argue that Patel et al. fails to teach what water-soluble surface agents are needed to adhere to hydrophobic surface and what glass transition temperature levels are selected for the aqueous emulsion polymer.

However, with respect to the water-soluble surface agent, it is noted that Patel et al. disclose that the ink comprises 85-99.5% liquid vehicle comprising water and solvent in ratio of 97:3 to 50:50 wherein the solvent includes sulfolane (col.6, lines 58-60 and 65 and col.7, lines 1-6, 14-16, and 21-25). While Patel et al. disclose the use of other solvents, the fact remains that Patel et al. also explicitly discloses the use of sulfolane as presently claimed and thus, it would have been obvious to one of ordinary skill in the art, absent evidence to the contrary, to utilize sulfolane. Given that Patel et al. discloses that the ink is suitable for use on hydrophobic substrate, it would have been natural for one of ordinary skill in the art to infer that the solvents disclosed by Patel et al. including sulfolane would adhere to hydrophobic surface.

With respect to the glass transition temperature, although there is no explicit disclosure of the glass transition temperature, it is calculated, using the preferred polymer of Patel et al., i.e.

obtained from 82% styrene, 18% butyl acrylate, and 2% acrylic acid, and the well known glass transition temperatures of styrene, i.e. 100 ^{0}C, butyl acrylate, i.e. –53 ^{0}C, and acrylic acid, i.e. 106 ^{0}C, that the polymer possesses glass transition temperature of, for instance, approximately 53 ^{0}C. Given that the preferred polymer of Patel et al. possesses glass transition temperature that falls within the presently claimed range, it is the examiner's position that Patel et al. meets the requirements of the present claims with respect to glass transition temperature.

Applicants also argue, with respect to claim 12, that specific range of surface tension useful for providing images on a hydrophobic substrate is not obvious in view of general disclosure that inks suitable for use with ink jet printers have a surface tension of about 20 to 70 dyne/cm as presently claimed.

It is noted that neither Zhu nor Patel et al. explicitly disclose the surface tension of the ink. Ma et al., which is drawn to ink jet ink as is Zhu and Patel et al., disclose that inks suitable for use in ink jet printing systems should have surface tension in the range of 20-70 dyne/cm in order to control jet velocity, separation length of the droplets, drop size, and shear stability of the ink. Thus, the teaching of Ma et al. regards the surface tension required for ink to be suitable for ink jet printing so that the ink is effectively printed from the printer regardless of the type of substrate on which it is printed. Thus, such surface tension would be suitable for ink jet inks printed on any substrate including hydrophobic substrate. While this may not be the same motivation for utilizing ink with specific surface tension as required in the present invention, it is noted that obviousness under 103 is not negated because the motivation to arrive at the claimed

invention as disclosed by the prior art does not agree with appellant's motivation. *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1996).

Thus, in light of the motivation for using ink with specific surface tension disclosed by Ma et al., it would have been obvious to one of ordinary skill in the art to control the surface tension of the ink of Zhu or Patel et al. to such surface tension values, including those presently claimed, in order to produce ink that is suitable for, and effectively printed from ink jet printer, and thereby arrive at the claimed invention.

In light of the above, it is the examiner's position that even if the amendment were entered, the present claims would not be allowable over the cited prior art of record.

Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
8/9/07